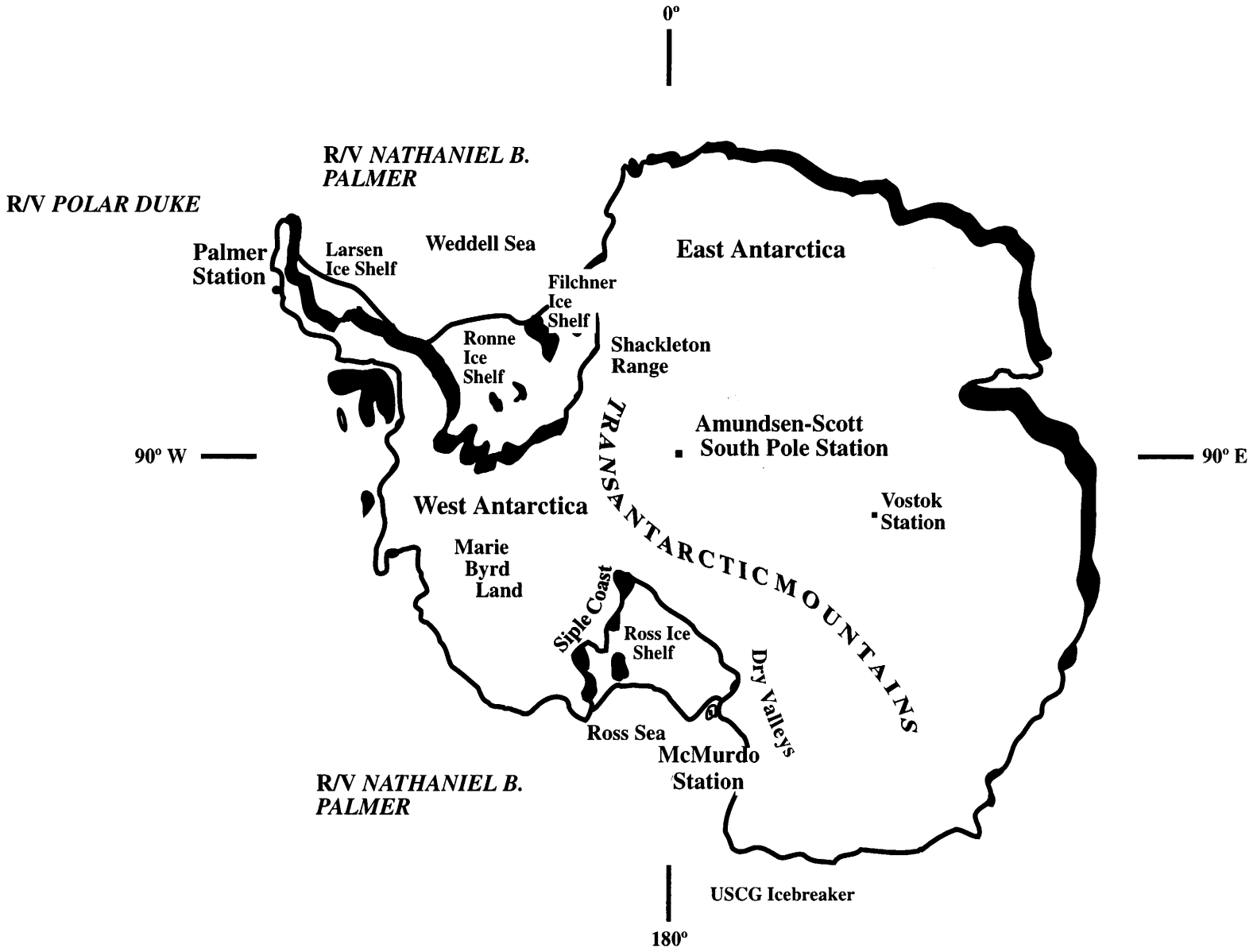
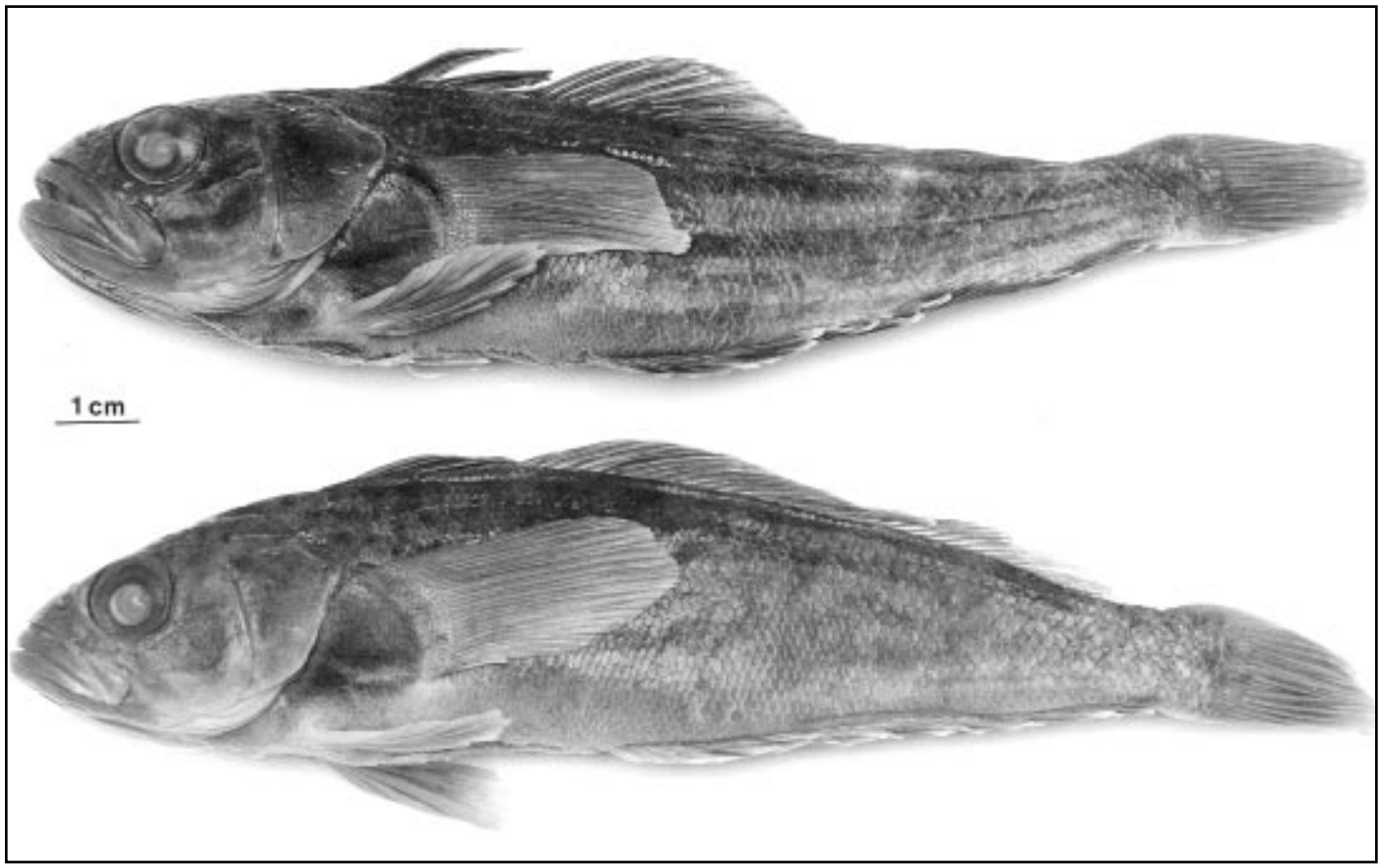
U.S. ANTARCTIC PROGRAM
1995 - 1996
LOCATIONS OF MAJOR ACTIVITIES





Notothenioid fishes from the high antarctic shelf are a striking example of the nature of antarctic marine biodiversity. The 95 species are an adaptive radiation, filling most niches on the bottom and in the water column. Joseph T. Eastman, an anatomist from Ohio University in Athens, Ohio, has recently extended the bounds of the notothenioid adaptive radiation to the population level by finding the first clear example of phenotypic plasticity in any marine fish. The appearance of a large-mouth morph (*top*) within the common nototheniid fish *Trematomus newnesi* is an example of this plasticity. The typical morph (*bottom*) is shown for comparison. Note the blunt snout, the size and angle of the mouth, and the position of the upper jaw in relation to the eye in the large-mouth morph as compared to the typical morph. The large-mouth shown here is a male, 162 millimeters in length and weighing 42.7 grams. The typical morph is a 164-millimeter-long female weighing 47.5 grams. Documentation of phenotypic plasticity suggests ecological and evolutionary parallels between the inshore waters of the antarctic shelf and the low-diversity ichthyofaunas of Arctic, boreal, and some temperate lakes. See the article on pages 113–115 for the dorsal and ventral views of these two morphs.